

P-3 Orion - WFF 09/30/18

Aircraft: [P-3 Orion - WFF](#) (See full schedule)

Flight Number: ORACLES Science Flight #2

Payload Configuration: ORACLES

Nav Data Collected: No

Archive Data: [20180930](#) (69 binary files; 24 archive (plain-text) files; 39 image files)

Total Flight Time: 7.7 hours

Submitted by: Mike Cropper on 10/01/18

Flight Segments:

From:	FPST	To:	FPST
Start:	09/30/18 08:00 Z	Finish:	09/30/18 15:40 Z
Flight Time:	7.7 hours		
Log Number:	18P004	PI:	Jens Redemann
Funding Source:	Hal Maring - NASA - SMD - ESD Radiation Science Program		
Purpose of Flight:	Science		
Miles Flown:	2400 miles		

Flight Hour Summary:

	18P004	19P018
Flight Hours Approved in SOFRS	188.5	
Flight Hours Previously Approved		144
Total Used	44.5	110
Total Remaining		34

19P018 Flight Reports

Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining	Miles Flown
10/02/18	ORACLES Science Flight #3	Science	8.5	8.5	135.5	1940
10/03/18	ORACLES Science Flight #4	Science	8.5	17	127	1970
10/05/18	ORACLES Science Flight #5	Science	9	26	118	2000
10/07/18	ORACLES Science Flight #6	Science	8.4	34.4	109.6	2000
10/10/18	ORACLES Science Flight #7	Science	8.3	42.7	101.3	1970
10/12/18	ORACLES Science Flight #8	Science	5.3	48	96	800
10/15/18	ORACLES Science Flight #9	Science	7.8	55.8	88.2	1700
10/17/18	ORACLES Science Flight #10	Science	8.5	64.3	79.7	2000
10/19/18	ORACLES Science Flight #11	Science	8	72.3	71.7	1800
10/21/18	ORACLES Science Flight #12	Science	8.2	80.5	63.5	1800
10/23/18	ORACLES Science Flight #13	Science	8.1	88.6	55.4	1800
10/25/18	ORACLES Transit #1	Transit	7.8	96.4	47.6	2009
10/26/18	ORACLES Transit #2	Transit	7	103.4	40.6	2100
10/27/18	ORACLES Transit #3	Transit	5.8	109.2	34.8	1692

Source URL: https://airbornescience.nasa.gov/flight_reports/P-3_Orion_-_WFF_09_30_18#comment-0

Page Last Updated: April 22, 2017

Page Editor: Brad Bulger

NASA Official: Bruce A. Tagg

Related Science Report:

ORACLES - P-3 Orion - WFF 09/30/18 Science Report

Mission: ORACLES

Mission Summary:

- Flight 7:12-14:35UTC
- High-altitude transit for HSRL
- Found somewhat broken clouds at ~7.5S.
- Radiation wall module components:
 - Spiral in somewhat heavier cloud field.
 - Ramped ascent south-bound to just above cloud.
 - Above, below, then sawtooth in-cloud 2-sawtooth leg. Chose sawtooth to capture variability in microphysics.

{AMS, CCN compromised below 3000' altitude by PTI leak up until end of cloud legs}

- 2 min above clouds for 4STAR AOD, then ramped ascent south-bound to start first, north-bound in-situ leg south of spiral.

{11:06UTC, at start of ascent: Power bank failed affecting HSRL, APR3, 4STAR, COMA, PDI; no data from these instruments after this. Also forced a slightly early return and cancellation of final high-altitude leg over wall area.}

- 3 ~15min in-situ legs ~1/3 to south of spiral, 2/3 to north of spiral.
- AOD 0.42 at spiral location; 0.36 at south end of wall & 0.32 at north end of wall.
- At north end of last in-situ leg / north of "wall", descend to measure cloud/aerosol in transit on way home:
 - ~30sec below-cloud, then 2 sawtooths, below-cloud leg, in-cloud level leg w/ HiGEAR/AMS/CCN on CVI.
 - Ascend to aerosol layer but it petered out really quickly
- Transitioned east to hit CALIPSO overpass for RSP; got on their track ~8min after overpass
- **{No PTI data this flight due to leak (gasket issue).}**

File:

 [PRF02_Y18_0930_FlightScienceReport.pdf](#)

Submitted by: Sarah Doherty on 10/12/18

Flight Reports began being entered into this system as of 2012 flights. If there were flights flown under an earlier log number the flight reports are not available online.

18P004 Flight Reports

Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining	Miles Flown
09/17/18	ORACLES ATF	Check	1.3	1.3	187.2	0
09/19/18	ORACLES PTF	Check	3.7	5	183.5	0
09/21/18	ORACLES Transit #1	Transit	6.3	11.3	177.2	1716
09/22/18	ORACLES Transit #2	Transit	8.2	19.5	169	2131
09/24/18	ORACLES Transit #3/Science Flight	Transit	9.3	28.8	159.7	2500
09/27/18	ORACLES Science Flight #1	Science	8	36.8	151.7	1875

[09/30/18](#)

ORACLES Science
Flight #2

Science

7.7

44.5

144

2400